

Serial No.: 10/625,779  
Docket No.: 02/22291  
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REMARKS

Entry of this Amendment is proper because it narrows the issues on appeal and does not require further search by the Examiner.

Claims 11-20 are presently pending in the application. Claims 11 and 14 have been amended to more particularly define the invention.

Applicant gratefully acknowledges the indication that claims 16-20 are allowable and that claim 14 would be allowable if rewritten in independent form. Claim 14 has been amended to independent form, and so is allowable. However, Applicant respectfully submits that all of the claims are allowable.

Claims 11-13 and 15 were rejected under 35 U.S.C. §102(b) as being anticipated by Ellis, et al., U.S. Patent No. 5,606,491. This rejection is respectfully traversed.

In the exemplary embodiment of a charge pump-type booster circuit set forth in claim 11, one side of each of the first output capacitor and the second output capacitor is always connected to a reference voltage level (e.g., ground in an exemplary, non-limiting embodiment). See the specification at page 10, lines 16-18, and see Figure 1. Because of this, the other side of the first output capacitor and the second output capacitor is able to supply a constant voltage to the load.

In contrast, in Figures 1 and 2 of Ellis, capacitor 46, which the Office Action contends is the first output capacitor, does not have one side that is always connected to a reference voltage level or ground. Therefore, the electrical potential on the other side differs depending upon the positions of switches 52 and 54. Consequently, capacitor 46 can not supply a constant voltage to the load.

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Claim 11 recites that one side of each of the first output capacitor and the second output capacitor is always connected to the reference voltage level. It is accordingly submitted that claim 11, and thus its dependent claims 12, 13, and 15 distinguish patentably from Ellis and are allowable.

While the Office Action attempts to read claim 11 on Figures 1 and 2 of Ellis, that attempt is incorrect.

The Office Action equates the elements of claim 11 with the circuit of Figures 1 and 2 of Ellis as follows: a pair of input terminals for providing an input voltage -- input terminals 24 and 25; a charge capacitor -- capacitor 36; a first pair of switches -- switches 40 and 44; a first output capacitor -- capacitor 46; a second pair of switches -- switches 42 and 50; a second output capacitor -- capacitor 26; a third pair of switches -- switches 52 and 66.

It is to be noted, however, that claim 11 does not merely call for any pairs of switches. Claim 11 calls for switches capable of assuming particular conditions which couple particular components with other particular components and which decouple those components.

In particular, the claimed second pair of switches is capable of assuming a first condition, coupling said first output capacitor across a first serial combination, comprising said input terminals and said charge capacitor, to charge said first output capacitor to a voltage level substantially twice the voltage level of the input voltage, and a second condition, decoupling said first output capacitor from said first serial combination.

The Office Action contends that in Ellis switches 42 and 50 are the second pair of switches of claim 11. If this be so, then switches 42 and 50 must be capable of "assuming a first condition, coupling said first output capacitor across a first serial combination,

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comprising said input terminals and said charge capacitor, to charge said first output capacitor to a voltage level substantially twice the voltage level of the input voltage, and a second condition, decoupling said first output capacitor from said first serial combination."

However, switches 42 and 50 are not capable of this. Therefore, switches 42 and 50 can not be the claimed second pair of switches, and so the rejection is improper and should be withdrawn.

At column 3, lines 49-58 Ellis describes the operation of the circuit of Figures 1 and 2, as follows:

"In operation, the first pump capacitor 36 is charged (from the input terminal 24) to a potential of  $V_{in}$  during the first phase of FIG. 1. During the second phase of FIG. 2, the pump capacitor 36 is coupled between the input terminal 24 and the second pump capacitor 46 with the lower plate of the pump capacitor 36 coupled to the terminal 24. Thus, the potential  $V_{in}$  on the pump capacitor 36 adds to the potential of the input terminal 24 and the second pump capacitor 46 is charged to a potential of  $2V_{in}$  in the second switching phase."

Tracing this circuit on Figure 2 shows that the coupling of capacitor 36 between input terminal 24 and capacitor 46 with the lower plate of capacitor 36 coupled to the terminal 24 involves an electrical path from input terminal 24, through closed switch 42, through capacitor 36, through closed switch 50, through capacitor 46, through closed switch 54, to input terminal 25. Three switches - - 42, 50, and 54 - - are involved to cause this first condition, coupling capacitor 46 across the serial combination of input terminals 24 and 25 and capacitor 36.

Admittedly, if switch 42 or switch 50 is opened, capacitor 46 is no longer coupled across the serial combination of input terminals 24 and 25 and capacitor 36, but as a practical

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matter this condition can not be achieved in Ellis' circuit -- switch 54 can not be ignored.

If switch 54 is always closed, then in Ellis' third condition in which switches 52 and 66 are closed, a direct short exists across input terminals 24 and 25 -- the path being from input terminal 24, through closed switches 52 and 54, to input terminal 25.

If switch 54 is always open, then Ellis can not achieve his second condition in which capacitor 46 is coupled across the serial combination of input terminals 24 and 25 and capacitor 36.

Additionally, in Ellis's condition 1, as depicted in Figure 1, if switch 54 is always closed, then a direct short exists across input terminals 24 and 25 -- the path again being from terminal 24, through closed switches 52 and 54, to input terminal 25.

Thus, if switch 54 is ignored, the Ellis circuit is inoperative. Ellis requires switch 54, which must be open under Ellis' condition 3, and desirably is open under Ellis' condition 1, but is closed under Ellis' condition 2.

Thus, Ellis does not provide a proper basis for rejection of claim 11 and its dependent claims 12-15.

In view of the foregoing, Applicant submits that claims 11-20, all the claims presently pending in the application, are patentably distinct over the prior art of record and are allowable, and that the application is in condition for allowance. Such action would be appreciated.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below to discuss any other changes deemed necessary for allowance in a telephonic or

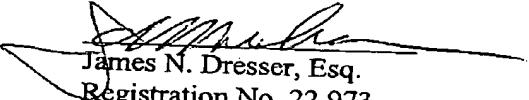
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personal interview.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR §1.136. The Commissioner is authorized to charge any deficiency in fees, including extension of time fees, or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Date: April 14, 2005

Respectfully Submitted,

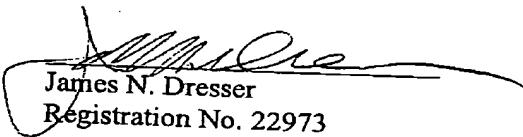


James N. Dresser, Esq.  
Registration No. 22,973

**McGinn & Gibb, PLLC**  
8321 Old Courthouse Road, Suite 200  
Vienna, VA 22182-3817  
(703) 761-4100  
**Customer No. 21254**

**CERTIFICATE OF FACSIMILE TRANSMISSION**

I hereby certify that I am filing this Amendment Under 37 C.F.R. §1.116 by facsimile with the United States Patent and Trademark Office to Examiner Terry D. Cunningham, Group Art Unit 2816 at fax number (703) 872-9306 this 14th day of April 2005.



James N. Dresser  
Registration No. 22973